

ABSTRACT OF THE DISCLOSURE

An apparatus comprising a fixed abrasive tool in which fine abrasive grains are uniformly dispersed and fixed, supply systems for processing liquids each containing an oxidizing agent, an organic acid, an inhibitor and purified water, and a sizing dresser capable of dressing the surface of the fixed abrasive tool at a constant size, and adapted to flow a processing liquid for polishing copper at a higher speed in the initial stage of processing, change the polishing liquid to another polishing liquid capable of polishing copper and barrier film substantially at an identical speed just before or just after the exposure of the barrier film and conduct conditioning during processing by driving the sizing dresser, the polishing method and the polishing apparatus enabling to decrease the cost in the existent CMP for planarization of copper wirings requiring two or more steps of CMP, as well as enabling to reduce dishing or erosion resulting in recesses for the wiring shape after planarization, which decrease the scattering in the wiring resistance value and reduce the short circuit or disconnection by the polishing residue of copper after planarization, and leads to improved yield.